Theoretical Statistics and Mathematics Unit, Kolkata
INDIAN STATISTICAL INSTITUTE

SEMINAR

Date: August 14, 2025
Time: 04:15 PM

VENUE:

L- 1
(3rd Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

The Polaron problem

SPEAKER:

Chiranjib Mukherjee
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ABSTRACT:

The Polaron problem has its roots in quantum statistical mechanics. Using the path integral formulation, the problem reduces to studying Gibbs measures with a space-time singular interaction w.r.t. Brownian paths. A long standing conjecture, dating back to Landau and Pekar from 1948, and to Spohn from 1986, states that the effective mass of the Polaron diverges as a quartic power of the coupling parameter. In a joint work with R. Bazaes, M. Sellke and S.R.S. Varadhan, we prove this conjecture.

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